noted that the when a constituent is referred to as possibly violating EPA criteria, this is because the detection limits were above the criteria. The elutriate sample from site 1BS96 indicated an increase in copper concentrations from ambient to elutriate samples. However, the elutriate concentration is below the LDEQ acute and chronic criteria. In addition, the composite sample for 1BS96 indicated increases from ambient to elutriate concentrations in all constituents except for metals due to an increase in detection limits from ambient to elutriate samples. The composite sample 2BS96 indicated an increase in B-BHC, dibutylphthalate, and butylbenzlphthalate concentrations from ambient to elutriate samples. The composite sample 4BS96 indicated an increase in dibutylphthalate concentrations from ambient to elutriate samples. However, these increases in concentrations do not necessarily indicate that the constituents are being released in the water column due to the elutriate test. These increases are due to increases in detection limits from ambient to elutriate concentrations.

C2.3.4.4 Summary of Overall Effects. No significant, long-term changes in water quality will result from the implementation of this project. Because dredging, cofferdam construction, and dewatering activities have only localized, short-term effects, long-term water quality impacts are not expected.

C2.3.5 References.

EPA, Impacts of Construction Activities in Wetlands of the United States, EPA-600/3-76-045, April 1976.

The Mitre Corporation prepared for EPA, Impact of Hydrologic Modifications on Water Quality, April 1975.

John B. Herbich, Handbook of Dredging Engineering, 1992

LDEQ Office of Water Resources, State of Louisiana, Water Quality Management Plan, Volume 5, Water Quality Inventory 1996.

LDEQ Office of Water Resources, Water Pollution Control Reference Materials, Rule: Chapter 11, 1991.

LDEQ, Environmental Regulatory Code, Part IX. Water Quality Regulations, February 1997.

C2.4 Hydraulic Design.

C2.4.1 General. Much of the design of this lock was based on the design of the Leland Bowman Lock; however, the Leland Bowman Lock has an earthen chamber and the selected plan for this lock has a concrete chamber with vertical walls. The selected plan has a usable length of 1,200 feet, a width of 75 feet and a sill elevation of -15 feet NGVD. Except where noted, all of the information shown below applies to the selected plan as well as to all of the alternatives that were studied.

C2.4.2 Design Stages And Design Heads. The proposed lock will be impacted on the flood side (south) by water levels in the Atchafalaya Floodway and will be impacted on the protected side (north) by water levels in the backwater area east of the Atchafalaya Floodway. Under existing conditions, stages in the backwater area east of the Atchafalaya Floodway are increased significantly during occurrences of high flows in the Atchafalaya Floodway and can also be affected significantly by tidal influences. Construction of a barrier levee and pumping station at Amelia, LA is a flood control alternative that is being evaluated in connection with another study. Should this alternative (which is not authorized at this time) be constructed, both of these influences (i.e., the tidal influences and the backwater influences from high flows in the Atchafalaya Floodway) on stages in the backwater area would be eliminated and stages as low as about 0 foot NGVD could occur during extended dry periods.

C2.4.2.1 Incorporation of Lock into Line of Protection. The proposed lock will be incorporated into the line of protection afforded to the backwater area by the East Atchafalaya Basin Protection Levee. The MR&T Project Flood flow line for the proposed lock is 28.7 ft. NGVD (DM No. 1, Hydraulic Design, Atchafalaya Basin, LA, Project Flood Flow Line dated January 1987). This stage incorporates the impacts of projected changes in topography and hydrography (deposition of sediments in the delta and the floodway, as well as decreased capacity of the floodway outlets) through Year 2030. The authorized freeboard at this location is 2 feet (as shown in House Document No. 308). The lock must therefore provide protection up to a net grade of 30.7 ft NGVD.